

International Union of Crystallography

Report of Executive Committee for 1973

Personal Notes

Dr Walter C. Hamilton died on 23 January after a brief illness. He had been a Co-editor of *Acta Crystallographica* since 1969 and, with Professor Ibers, he was editing Volume IV of *International Tables for X-ray Crystallography*, entitled *Revised and Supplementary Tables to Volumes II and III*, which will be published in 1974.

Meetings

The Union sponsored or co-sponsored the following meetings held in 1973: Symposium on the Structure of Biological Molecules, Stockholm, Sweden, 9–11 July; Sagamore IV, Minsk, U.S.S.R., 13–18 August; Third International Conference on Small-Angle Scattering, Grenoble, France, 5–7 September; First European Crystallographic Meeting, Bordeaux, France, 5–8 September; Third International Meeting on Ferro-electricity, Edinburgh, Scotland, 10–14 September.

The Executive Committee met in Aarhus, Denmark, 3–5 July. The main items dealt with were: (1) the accounts for 1972, the future estimates for the General Fund and the need to increase the unit contribution at the next General Assembly; (2) subscription rates and other matters concerning the Union's journals, including the decision to offer the earlier volumes for sale at greatly reduced prices for a limited period; (3) the meeting of the Commission on *International Tables* being held in September 1973 to consider the responses to the Pilot Issue; (4) the interim report of the Working Party on Information Services; (5) the proposals for a Fifth Edition of the *World Directory of Crystallographers* and for a crystallographic dictionary; (6) sponsorship of meetings; (7) plans for the Tenth General Assembly and International Congress of Crystallography and (8) the work of ICSU.

Substitutions and Appointments

The appointment of G. A. Jeffrey as a Co-editor of *Acta Crystallographica*, the re-appointment of J. M. Robertson as a Co-editor of *Structure Reports* and the co-option of B. T. M. Willis and S. Hoshino as members of the Commission on Neutron Diffraction were approved by the Executive Committee. In addition, E. F. Bertaut, G. Caglioti and C. G. Shull were appointed as consultants to the Commission on Neutron Diffraction.

The *ad interim* Commission on Charge, Spin and Momentum Densities was created with the following membership: R. J. Weiss (Chairman), E. F. Bertaut, P. Cade, P. Coppens, Malcolm J. Cooper, B. Dawson, N. Kato, K. V. J. Kurki-Suonio, R. M. Moon, N. N. Sirota, E. R. Wölfel and L. M. Corliss (*ex officio*, as Chairman of the Commission on Neutron Diffraction).

Publications

In 1973, Volume 29 of *Acta Crystallographica* was published; Section A consisted of 774 pages and Section B 2984 pages, excluding indexes. The joint indexes (41 pages) for both sections were distributed in April 1974. Volume 6 of the

Journal of Applied Crystallography was published and consisted of 512 pages, including the indexes (10 pages) which were distributed with the December issue.

Volume 4 (Bibliography 1971–72) and Volume A1 (Interatomic Distances 1960–65) in the *Molecular Structure and Dimensions* series were published in 1973. No volumes of *Structure Reports* or reprints of volumes of *International Tables* were published.

Adhering Bodies

The latest list of Adhering Bodies of the Union and names and addresses of the Secretaries of the National Committees is given in Table 1. A full list of memberships of National Committees is given in Annex IV to the Report of the Ninth General Assembly and International Congress of Crystallography [*Acta Cryst.* (1973). A29, 771–772]. The following changes to those committees had been communicated to the Executive Secretary by 1 May 1974:

Finland: add Th. Sahama.

France: New membership: R. Gay (Chairman), P. Meriel and R. Weiss (Vice-Chairmen), A. Authier, M. Comes, P. Herpin, B. Jacrot, M. Jeannin, J. Lajzerowicz, J. Meinel.

U.S.A.: omit G. A. Jeffrey, J. S. Kasper, W. H. Kehl, V. Schomaker and add S. C. Abrahams, J. P. Glusker, J. A. Ibers, L. H. Jensen, I. L. Karle.

Work of the Commissions

Commission on Journals

During 1973 the Commission on Journals produced Volume 29 of *Acta Crystallographica* and Volume 6 of the *Journal of Applied Crystallography*. The staff in the Technical Editor's office had no difficulty in keeping up with the papers accepted for publication, but industrial disputes in Denmark caused a considerable delay in publication during the first half of the year. Publication delays were appreciably reduced during the second half, but are still considerably longer than during the latter part of 1972. The regular issues of Section A of *Acta Crystallographica* and of the *Journal of Applied Crystallography* showed an appreciable increase in size over 1972. The reduction in the size of Section B of *Acta Crystallographica* is largely a reflexion of the effort made during 1972 to clear the backlog of papers at the printers; to a lesser extent it reflects the success of the scheme for short structural papers and the auxiliary publication scheme, as well as the delays in printing already mentioned. An analysis of the contents of the journals for the last six years is given in Table 2.

As noted in the report for 1972, the Commission is concerned about the time required for publication by current methods, and about the high cost of, in particular, Section B. The two Working Groups, on Production Methods and on Publication of Structures, have been active during the year, and that on Publication of Structures has circulated a memorandum to the Commission and to the Executive Committee for comment.

Tables 1. *Adhering Bodies*

<i>Country</i>	<i>Category*</i>	<i>Adhering Body</i>	<i>Secretary of National Committee</i>
Argentina	I	Consejo Nacional de Investigaciones Científicas y Técnicas	M. IPOHORSKI, Departamento de Metalurgia, Comisión Nacional de Energía Atómica, Avenida del Libertador 8250, Buenos Aires
Australia	III	Australian Academy of Science	J. DEEBLE, Australian Academy of Science, P.O. Box 216, Civic Square, Canberra, A.C.T. 2608
Austria	I	Österreichische Akademie der Wissenschaften	J. ZEMANN, Mineralogisches Institut der Universität, Dr. Karl Lueger-Ring 1, 1010 Vienna
Belgium	II	Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique	G. JACOBS, Rijksuniversiteit te Gent, Faculteit der Wetenschappen, Laboratorium voor Kristalkunde, Krijgslaan 271, B-9000 Gent
Brazil	I	Conselho Nacional de Pesquisas	R. R. FRANCO, Conselho Nacional de Pesquisas, Avenida Marechal Camara 350, Rio de Janeiro, G.B.
B.R.D. (Federal Republic of Germany)	IV	Arbeitsgemeinschaft Kristallographie	H. WONDRAUSCHEK, Institut für Kristallographie der Universität, Kaiserstrasse 12, 75 Karlsruhe I
Canada	III	National Research Council	L. D. CALVERT, Division of Chemistry, National Research Council of Canada, Ottawa, Ontario K1A 0R6
Chile	I	National Committee for Crystallography	I. GARAYCOCHEA-WITTKE, Departamento de Física, Universidad de Chile, Casilla 5487, Santiago
Czechoslovakia	I	Československá Akademie Věd	A. LÍNEK, Institute of Solid State Physics, Československá Akademie Věd, Cukrovarnická 10, Prague 6
D.D.R. (German Democratic Republic)	II	Deutsche Vereinigung für Kristallographie der Deutschen Gesellschaft für Geologische Wissenschaften	H. PEIBST, Deutsche Akademie der Wissenschaften zu Berlin, Mohrenstrasse 40/41, DDR-108 Berlin
Denmark	I	Akademiet for de Tekniske Videnskaber	I. KJØLLER LARSEN, The Royal Danish School of Pharmacy, Chemical Laboratory C, Universitetsparken 2, 2100 Copenhagen Ø
Finland	I	Suomalainen Tiedekatemia	P. PAALASSALO, Wihuri Physical Laboratory, University of Turku, 20500 Turku 50
France	IV	Académie des Sciences (Institut de France)	A. AUTHIER, Association Française de Cristallographie, 9 Quai Saint Bernard, Tour 26, Paris 5e
Hungary	I	Magyar Tudományos Akadémia	L. ZSOLDOS, Institute of Solid State Physics, Eötvös University, Múzeum krt. 6-8, 1088 Budapest
India	I	Indian National Science Academy	R. CHIDAMBARAM, Scientific Officer, (E) Nuclear Physics Division, Bhabha Atomic Research Centre, Trombay, Bombay-85
Israel	I	Israel Academy of Sciences and Humanities	MICHAEL HAREL, The Weizmann Institute of Science, Rehovot
Italy	III	Consiglio Nazionale delle Ricerche	M. MAMMI, Istituto di Chimica Organica, Università di Padova, Via Marzolo 1, 35100 Padova
Japan	IV	Science Council of Japan	Y. SAITO, The Institute for Solid State Physics, University of Tokyo, Roppongi 7, Minato-ku, Tokyo 106
Netherlands	III	Stichting voor Fundamenteel Onderzoek der Materie met Röntgen- en Elektronenstralen	P. T. BEURSKENS, Laboratorium voor Kristallografie, Toernooiveld, Nijmegen
New Zealand	I	The Royal Society of New Zealand	W. T. ROBINSON, Chemistry Department, University of Canterbury, Private Bag, Christchurch
Norway	I	Det Norske Videnskaps-Akademi	CHR. RØMMING, Department of Chemistry, University of Oslo, P.O. Box 1033, Blindern, Oslo 3
Poland	I	Polska Akademia Nauk	A. PIETRASZKO, Instytut Niskich Temperatur i Badań Strukturalnych, Polska Akademia Nauk, Plac Katedralny 1, Wrocław
South Africa	I	South African Council for Scientific and Industrial Research	G. GAFNER, National Physical Research Laboratory, P.O. Box 395, Pretoria
Spain	III	Consejo Superior de Investigaciones Científicas	S. GARCÍA-BLANCO, Instituto de Química Física 'Rocasolano', Consejo Superior de Investigaciones Científicas, Serrano 119, Madrid 6
Sweden	II	Kungliga Vetenskapsakademien	S. ABRAHAMSSON, Crystallography Group, University of Göteborg, Medicinareg. 9, S-400 33 Göteborg 33
Switzerland	II	Schweizerische Gesellschaft für Kristallographie	J. D. DUNITZ, Laboratorium für Organische Chemie der ETH, Universitätsstrasse 6/8, CH-8006 Zürich
U.K.	V	The Royal Society	Sir DAVID MARTIN, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG

Table 1 (cont.)

Country	Category*	Adhering Body	Secretary of National Committee
U.S.A.	V	National Academy of Sciences – National Research Council	W. R. BUSING, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, Tennessee 37830, U.S.A.
USSR	V	Akademija Nauk S.S.S.R.	V. I. SIMONOV, Institute of Crystallography, Leninsky prospekt 59, Moscow B-333
Yugoslavia	I	Jugoslavenska Akademija Znanosti i Umjetnosti	B. KAMENAR, Laboratory of General and Inorganic Chemistry, Faculty of Science, Ulica Soc. Revolucije 8, 41000 Zagreb

* Adherence to the Union is in one of five Categories I–V, with corresponding voting powers and contributions as set out in Statutes 3-6, 5-5 and 9-4.

Commission on Structure Reports

No volumes have been published during the year. It has however been a year of intense editorial activity, and many manuscripts (including some long-outstanding ones) have been completed, are being prepared for publication, and should appear in 1974. The splitting of volumes into two parts, Metals/Inorganic and Organic, will commence with the volume for 1965. Work is still divided between Dr Pearson (1963–70 volumes) and Dr Trotter (1971 volume onwards).

Commission on International Tables

1. Pilot Issue of Series A (Symmetry Tables)

Part 4 (Synoptic Tables) was published and distributed to the selected laboratories in March 1973. With the previously published Parts 1, 2 and 3 this completes the Pilot Issue concerning *Classical Symmetry*. The work on Part 5 (*Generalized Symmetry*) is being continued. The Commission has decided not to publish Part 6 (*Physical Properties in Symmetric Media*), but instead has proposed a series of monographs on selected topics in crystallography, stressing

primarily the relations between physics and crystallography.

2. Present Edition

For Volume IV (*Revised and Supplementary Tables to Volumes II and III*), the page proofs were corrected in the autumn of 1973. The volume is due to be published in 1974.

3. New Edition of International Tables for Crystallography

From 30 August to 3 September the Commission held a meeting at St. Nizier, near Grenoble, France at the kind invitation of Dr E. F. Bertaut. The meeting was attended by 18 members, consultants and assistants of the Commission. The major points on the agenda were as follows:

- (1) Evaluation of the Pilot Issue and responses to it. (There were a fair number of responses, many of them quite detailed and helpful.)
- (2) Discussion of and decision on the new edition of *International Tables for Crystallography*.
- (3) Proposal for the budget, the time-table and the execution of the new edition.
- (4) Future activities of the Commission.

Table 2. Survey of the contents of the Union journals
Acta Crystallographica

Vol.	Year	Number of pages*	Articles		Short Communications		Short Structural Papers	
			Number	Average length	Number	Average length	Number	Average length
A24	1968	714	108	6.37	27	1.25	–	–
B24		1706	251	6.72	62	1.44	–	–
A25	1969	1027	120	6.11	25	1.24	–	–
B25		2672	355	7.17	74	2.01	–	–
A26	1970	702	112	6.04	32	1.66	–	–
B26		2138	301	6.80	54	1.76	–	–
A27	1971	700	103	6.28	24	1.42	–	–
B27		2494	367	6.60	67	1.30	–	–
A28	1972	985	107	5.94	35	1.23	–	–
B28		3676	584	6.07	75	1.53	4	2.56
A29	1973	774	118	6.02	26	1.27	–	–
B29		2984	457	5.84	56	1.51	74	2.34

Journal of Applied Crystallography

Vol.	Year	Number of pages*	Articles		Short Communications		Crystal Data	
			Number	Average length	Number	Average length	Number	Average length
1	1968	330	54	5.60	7	1.39	–	–
2	1969	312	50	5.44	11	1.45	3	1.42
3	1970	552	79	6.06	26	1.77	2	1.13
4	1971	534	74	5.61	23	1.74	8	1.25
5	1972	448	69	4.93	27	1.56	12	1.25
6	1973	502	62	5.50	18	1.33	13	1.67

* Excluding indexes.

† Volume A25 includes 295 pages of abstracts communicated to the Stony Brook Congress and 276 pages of papers and discussion at the Cambridge Intensity Meeting, 1968.

‡ Volume A28 includes 303 pages of abstracts communicated to the Kyoto Congress.

After long and detailed deliberations the Commission unanimously agreed on a proposal for the new edition which will be considered by the Executive Committee. The plans include the publication of three volumes, the first containing text and synoptic material, the second tables for direct space and the third tables for reciprocal space. In the preparation of these volumes, full use is being made of the 'Computer Trial Project', carried out at Groningen by D. S. Fokkema. The data for the tables will be obtained from computer programs and will be printed by computer typesetting. This task will be performed by Mr Fokkema in close consultation with the Chairman of the Commission.

Commission on Crystal Growth

The Commission did not meet and no special activities were undertaken. Correspondence between Commission members occurred with respect to future conferences, in particular the Second International Spring School on Crystal Growth to be held in Japan in 1974, and the Tenth International Congress of Crystallography and the Third International Conference on Vapour Growth and Epitaxy, both to be held in Amsterdam in August 1975.

Commission on Crystallographic Apparatus

The Commission was occupied with the following items during 1973, all of which were dealt with by means of correspondence:

1. *Inter-Congress Conference on Anomalous Scattering, Madrid, Spain, 22–26 April 1974* (S. Rasmaseshan, Programme Chairman; M. Font-Altaba, Local Chairman; S. C. Abrahams, Chairman). The scientific programme of this conference was designed to stimulate new ideas in the use of anomalous scattering of X-rays, neutrons and electrons and to review and improve the present theoretical and experimental approaches to the interpretation and measurement of anomalous scattering. Selection of general topics and the most appropriate speakers was made by the Commission serving as the Programme Committee, and an excellent response was received from those invited to speak. The conference was held, by kind invitation, at the Consejo Superior de Investigaciones Científicas. Local arrangements are in charge of M. Font-Altaba, S. Martinez-Carrera and S. Garcia-Blanco.
2. *Single-Crystal Radiation Damage Project—Phase II* (R. Rudman and S. C. Abrahams). With the approval of the Executive Committee, funds are being sought from the U.S. National Science Foundation to support the work of Phase II. It is proposed that a systematic study be conducted, over a period of about two years, by several laboratories into methods for detecting radiation damage, classification of chemical classes in terms of sensitivity to damage, conditions for treating data from radiation damaged crystals, and the effects on final results of radiation damage.
3. *Powder Intensity Project* (P. Suortti). The possibility of reopening the first powder intensity project of the Commission, see *Acta Cryst.* (1969), A25, 217–222, is being carefully considered. A summary of the current status of the most advanced techniques in accurate powder measurement has been drafted, and 50 potential contributors have been invited to comment on the draft and also to answer a questionnaire concerning their possible participation in a second phase of the powder intensity project.

4. *Radiological Safety Requirements*. Impending legislation and recommendations that require use of special safety devices on diffraction equipment and control of radiation areas is of importance to crystallographers. The Commission has begun a survey of radiation safety legislation and current trends.
5. *Small-Angle X-ray Scattering Absolute Intensity Project* (R. W. Hendricks). Seven sets of experimental measurements on standard glassy carbon specimens have been received, and a preliminary report has been given at the Third International Conference on Small-Angle Scattering held in Grenoble, France, 5–7 September 1973.
6. *Phase II of the Single-Crystal Intensity Measurement Project* (A. McL. Mathieson). Analysis of data from this project is nearly complete and will be presented in a forthcoming report.
7. *Project on the Accuracy of Intensities Determined Microdensitometrically* (U. W. Arndt). Organization of this project has proved slower than expected, although the need continues with the increasing application of computer-controlled scanning microdensitometers to screened or unscreened films of biological material.

Commission on Crystallographic Computing

The work of the Commission was conducted mainly through correspondence. The main items of business were as follows:

1. *The 1975 International Summer School on Crystallographic Computing*. This school will be held in Prague, Czechoslovakia, 28 July–5 August, just prior to the Tenth IUCr Congress. The Union has agreed to sponsor the school, and negotiations with the other sponsors are still in progress. K. Huml, of the Institute of Macromolecular Biology of the Czechoslovak Academy of Sciences, will act as the Local Chairman, and the Commission members will arrange the scientific programme. The special emphasis at the school will be on the direct methods of structure solving and on the computational aspects of protein crystallography. The rest of the time will be devoted to miscellaneous crystallographic computer applications and techniques. Each topic will be organized by one or more selected specialists in the field.
2. *Part II of the Standard Tests for Crystallographic Computer Programs*. The tests for this part have been selected. They will deal with solution through refinement and geometrical calculations of actual crystal structures in different symmetries. J. M. Stewart has started work on the first round of calculations.
3. *World List of Crystallographic Computer Programs*. The third edition of the World List has been published [*J. Appl. Cryst.* (1973), 6, 309–346]. G. Bassi, the editor of this edition, has agreed to undertake the preparation of yearly supplements to this list. An announcement regarding these supplements will be published [*J. Appl. Cryst.* (1974), 7, 313].
4. *Bank of Trial Structures*. M. M. Woolfson has proposed and undertaken the setting up of a bank of trial structures for testing direct methods. This will cover a range of space groups and structural complexity and will include mainly those structures which have been difficult to solve. An announcement of this project will be published [*Acta Cryst.* (1974), A30, 303].

Commission on Crystallographic Data

The Chairman met with H. M. Ondik and G. G. Johnson Jr on two separate occasions and discussed further details of the proposed list of crystallographic information services. A summary list was prepared and circulated to all members for additional contributions prior to the final version being drafted.

At the Ninth Congress the Commission agreed to give advice, if needed, to the persons responsible for the preparation of the next edition of the *World Directory of Crystallographers*. Early in 1973 the Chairman sent to H. Cole and S. C. Abrahams detailed suggestions on the file structure of the machine-readable data base together with some comments on production costs in the U.K.

There has been correspondence with the Chairman of the Commission on Crystallographic Computing with respect to the International Summer School on Crystallographic Computing, to be held in 1975. It has been suggested that it might now be appropriate to incorporate in the programme some lectures on information retrieval.

Commission on Crystallographic Nomenclature

The Commission held no meetings during the year, but its Chairman attended those sessions of the meeting of the Commission on *International Tables* at St. Nizier that dealt with symbols and nomenclature. Also through its Chairman, the Commission has participated in the work of the joint (with the International Mineralogical Association) Committee on Nomenclature.

The main activity of the Commission during the year was the preparation of a proposal to the Executive Committee that the Union should compile a crystallographic dictionary. According to the proposal, crystallographic terms would appear in all four languages used by the Union (and possibly one or two others as well), but the cost of the dictionary would be kept as low as possible by giving the definition in English only. The Executive Committee was not able to support the proposal on financial grounds at this time. The Commission is continuing to manifest its interest in the project in several ways, including exploring possible alternate sources of partial or complete funding and planning for a possible Open Meeting on the subject at the Tenth Congress.

Commission on Crystallographic Studies at Controlled Pressures and Temperatures

The work of the Commission was conducted mainly by correspondence but four members met in Paris on 27 June. It is intended to prepare bibliographies on crystallographic studies at high temperatures, at low temperatures and at high pressures, and work has started on some of these bibliographies. It is also hoped to prepare review articles on these topics for publication in appropriate international journals. The compilation of a list of persons interested in the Commission's activities is under consideration. The use of materials which undergo a crystallographic transformation at a given temperature or pressure as a means of determining temperature or pressure is another topic which concerns the Commission. This topic has been suggested for inclusion in the programme for the Tenth Congress.

The proceedings of the International Meeting on Studies of Crystalline Transformations at High Temperatures above 2000°K, held at Odeillo, 27–30 September 1971, was published by CNRS in 1973.

Contact has been maintained between the Commission and the IUPAC Commission on High Temperatures and

Refractories, through M. Foex. There are several topics of interest to both Commissions.

Commission on Crystallographic Teaching

The Commission held no formal meetings during the year but, as a result of a period of six months' sabbatical leave during the first half of the year, the Chairman was able to visit some of the European members and consultants, for discussions. He was also able to visit UNESCO to discuss possible extensions of the pilot project. These discussions and correspondence within the Commission have been concerned with the development of plans begun at the last Congress to consider the possible publication of a series of pamphlets on teaching topics and the holding of a summer school on crystallographic teaching in Europe at the time of the Tenth Congress.

In April the Chairman attended a conference on the Teaching of Integrated Science at Maryland University, a brief report of which is included in the report on the ICSU Committee on the Teaching of Science.

Commission on Electron Diffraction

The Commission hopes to organize two Open Commission Meetings at the Tenth Congress, on gas electron diffraction – novel species and techniques and on surface crystallography. The Commission has also recommended several topics to the Congress Programme Committee for inclusion in the scientific sessions.

A. F. Moodie is a member of the Organizing Committee of the International Crystallography Conference on Diffraction Studies of Real Atoms and Real Crystals, to be held in Melbourne in August 1974, and is Chairman of the Programme Committee for the session on the use of dynamical effects in the study of crystals. Three other members of the Commission, G. Honjo, K. Molière and S. A. Semiletov, are also members of this programme committee.

The working group on gas electron diffraction (L. S. Bartell, K. Kuchitsu and H. M. Seip) has prepared a draft guide for the publication of experimental gas-phase diffraction data and derived structural results in the primary literature. The draft has been sent to a number of active researchers in gas electron diffraction for constructive criticism, and will be discussed at two scientific meetings in 1974. When a general consensus has been reached, the guide will be submitted for publication.

G. A. Somorjai has prepared a list of scientists who are working on surface crystallography, in order that the Commission can keep in contact with scientists in this field.

Commission on Neutron Diffraction

Collection and dissemination of current information on neutron scattering amplitudes and on magnetic structures has continued. Work has started, in collaboration with the *ad interim* Commission on Charge, Spin and Momentum Densities, on a project to publish critically evaluated magnetic form factors. Initial distribution is expected to be made through the Magnetic Structure Data Sheet service of the Commission on Neutron Diffraction.

Work is continuing on the Spectrometer Intercomparison Project. An interim report to participants is expected early in 1974.

The Commission has decided to publish a Neutron Diffraction Newsletter which will serve as a vehicle for the informal presentation of new developments in instrumentation and experimental methods, as well as news, literature, and

descriptions of commercial products of interest to the neutron diffraction community. The newsletter is expected to appear on an irregular basis starting in 1974.

A conference on neutron diffraction, under the joint sponsorship of the Commission and the Reactor Centrum Nederland (Petten, The Netherlands), is being organized in conjunction with the Tenth Congress. The meeting will be devoted mainly to specialized techniques, instrumentation, and methods that are of particular interest to the specialist in neutron diffraction.

Ad interim Commission on Charge, Spin and Momentum Densities

The Commission met for the first time at the Sagamore IV conference held at Minsk, USSR in August 1973. Progress reports on the Compton scattering measurement and assessment projects were presented at an open meeting of the Commission. The final reports on both projects will be presented at the Tenth Congress of Crystallography in 1975. At the closed meeting of the Commission new projects were discussed. Those considered included the compilation of annotated bibliographies in the areas of electron charge and spin density, further investigations of extinction in X-ray and neutron scattering, and the distribution of (220) slices of silicon to allow structure factor data to be placed on an absolute scale.

Subsequent to this meeting it was suggested that a summer school for crystallographers on charge, spin and momentum densities should be organized and should be held immediately prior to the Tenth Congress. M. J. Cooper was asked to follow up this idea. It was agreed to hold the next Sagamore conference in Finland and K. V. J. Kurki-Suonio accepted the invitation to act as local organiser.

Sub-Committee on the Union Calendar

Among the aims of the Committee is the encouragement of specialist and regional meetings to distribute opportunities for discussion and relieve pressure on the triennial Congresses of the Union. A number of requests for Union sponsorship and, in some cases, nominal financial support have been received. The Executive Committee approved sponsorship of the following meetings:

1. International Discussion Meeting on Studies of Lattice Distortions and Local Atomic Arrangements by X-ray, Neutron and Electron Diffraction (Jülich, B.R.D., 29 April–3 May 1974).
2. Second European Crystallographic Meeting (Keszthely, Hungary, 26–29 August 1974).
3. International Summer School on Crystallographic Computing (Prague, Czechoslovakia, 28 July–5 August 1975).

Other meetings held in 1973 or planned for 1974 and which received Union sponsorship in 1972 are listed in the Report for 1972 [*Acta Cryst.* (1974). A30, 115]. Organizers of meetings seeking IUCr sponsorship should write to the Chairman of the Sub-Committee, Dr A. McL. Mathieson, Division of Chemical Physics, CSIRO, P.O. Box 160, Clayton, Victoria 3168, Australia.

IUCr-IMA Joint Committee on Nomenclature

During 1973 the Joint Committee has been concerned primarily with developing and evaluating systems of polytype notation that might be universally applicable to indicate the

orientations and displacements of the component sheets within any polytypic stacking sequence. A proposal developed within the Committee by H. Schulz has been judged inadequate. A proposal by B. B. Zvyagin, after modification by the Committee, shows more promise and will be voted upon in 1974. The notation system of Dornberger-Schiff is being reviewed. The Committee has also considered the desirability of usage of the terms polycrystal, syntactic, paramorph, syntactic pseudomorph, monotaxy, hypoperiodical epitaxy, and hypodiperiodical epitaxy.

Representatives on Other Bodies

Abstracting Board of the International Council of Scientific Unions

The ICSU Abstracting Board met in London, 4–11 July 1973. The first two days were devoted to a conference of Editors, with the title 'Primary Publications and Secondary Services: Partners in Information Flow'. The meeting was arranged by the ICSU AB with the support of the Royal Society, and was attended by approximately 125 registrants. The programme included about a dozen papers, and a visit to the operations of the secondary service INSPEC, which is responsible for the publication of *Physics Abstracts* and other services. The speakers were asked to provide revised versions of their talks, and it is expected that these will shortly be published.

The mornings of the open sessions of the Full Board meetings were devoted to the usual reports of Board members and selected observers, and the afternoons to discussions of 'The Role of Government in Information Transfer' and 'Indexing'. At the closed sessions it was announced with regret that Dr Byron Riegel was unable to continue as President because of ill-health. Professor F. Stafleu, General Secretary of ICSU, was appointed to act as President until the next General Assembly of the Board, which was expected to be held in Berlin, July 1974. Four new Member Services were admitted: The Japan Information Centre for Science and Technology, The United Kingdom Chemical Information Service, *Psychological Abstracts*, and the *Zoological Record*. The admission of *Psychological Abstracts* marks the first venture of the board into the 'human' sciences. Resignations were received from Canada (as a National Member) and the American Water Resources Association (as a Member Service), both on financial grounds. The Board's own finances occupied a great deal of time; inflation and the 'floating' of the dollar had reduced the effective income of the Board very considerably. An immediate increase of 30% in the dues of Member Unions and Member Services was agreed, and larger increases would take effect in 1975. In particular, Member Services would contribute on a sliding scale from \$1000 to \$5000 per year, much as the members of the IUCr adhere in different categories.

During the year the ICSU Abstracting Board and CODATA set up a Joint Working Group to collaborate on matters of mutual interest, the one immediately under consideration being information dissemination centres. It is interesting that both the Board and CODATA nominated the representatives of the IUCr to this working group.

Committee on Data for Science and Technology (CODATA) of the International Council of Scientific Unions

The Task Group on Computer Use organized a Conference on Man-Machine Communication for Scientific Data Handling, at the University of Freiburg in July 1973.

In September 1973 the constitution was approved by the delegates and since then some amendments have been introduced to conform to ICSU conventions. A major factor involved in the new constitution was the reorganisation of the Secretariat and the replacement of the Bureau by an Executive Committee. The new Executive Secretary, B. Dreyfus, has an office in the ICSU building in Paris.

The Task Group on Presentation of Data in the Primary Literature has completed its report and this has been published as a CODATA Bulletin. Versions of the report in languages other than English will be prepared. The Task Group on the Accessibility and Dissemination of Data has submitted its report to UNESCO, which will circulate it widely before publication. The establishment of a Joint Working Group by CODATA and the ICSU Abstracting Board has already been referred to in the report on the latter body. A committee has been established to review the publication policy of CODATA with respect to the Newsletter, Bulletin and Compendium.

Committee on the Teaching of Science of the International Council of Scientific Unions

The committee did not hold a full meeting this year but two meetings of officers and one informal meeting at UNESCO were held. The Union's representative, C. A. Taylor, attended these meetings in his capacity as Chairman of the UNESCO advisory sub-committee. He also attended the conference at Maryland University and acted as one of the two rapporteurs.

1. Conference on the Teaching of Integrated Science, Maryland University, U.S.A., 3-13 April 1973.

About 200 participants from 60 countries attended this conference, which was organised by the ICSU Committee on the Teaching of Science in collaboration with the University of Maryland, UNESCO and the U.S. National Commission on UNESCO. The full proceedings will be available as a UNESCO publication in 1974.

The conference was very stimulating. Its greatest value lay in the exchange of experiences between representatives of the various countries and in the opportunities for discussions about ways of adapting these experiences to suit the varying needs. The value of topics such as crystallography as vehicles for teaching integrated science at all levels was stressed in many connexions.

Following on the conference, a meeting of representatives of science teacher associations was held and a new organisation, the International Council of Associations of Science Education, was launched. It is affiliated to the ICSU Committee on the Teaching of Science and at present has the same secretary.

2. Meetings of Officers at Maryland on 12 April and at Cardiff on 2-3 November 1973.

Among the many points discussed were the following:

- (1) Relationships with the Committee on Science and Technology in Developing Countries (COSTED) and with the Scientific Committee on Problems of the Environment (SCOPE). Both had obvious links with the ICSU CTS because the current problems of the environment were very much concerned with integrated science rather than with any one discipline.
- (2) Plans were made to hold a seminar on the problems of integrating science at university level during the next full meeting of the committee in Paris in May 1974 and

the teaching commissions of the Unions are to be invited to prepare papers or to send additional representatives.

- (3) Tentative plans for meetings on the evaluation of integrated science schemes, the study of the environment as a means of integrating science and a seminar on order and disorder were discussed.
- (4) The Chairman also attended an informal meeting at UNESCO in Paris on 8-9 June 1973 in relation to the advisory function of the committee to the Science Teaching Division of UNESCO. In particular the meeting noted that the second volume of *New Trends in Integrated Science* had now appeared and detailed plans for the publication of the proceedings of the Maryland conference were discussed. Among the suggestions for other publications was a work on the contribution that could be made by subjects such as crystallography and astronomy in teaching integrated science at school level.

Commission on the Solid State of the International Union of Pure and Applied Physics

Six conferences were held during 1973 with IUPAP sponsorship recommended by the Commission. These conferences were listed in the report for 1972. Sponsorship with financial support has been approved for the following conferences to be held in 1974:

1. Fifth International Symposium on Magnetic Resonance (Bombay, India, 14-18 January).
2. Fourth International Conference on Crystal Growth (Tokyo, Japan, 24-29 March) co-sponsored with the IUCr.
3. Colour Centers in Ionic Crystals (Sendai, Japan, 19-23 August).

Sponsorship without financial support was proposed for the following conferences to be held in 1974:

1. Second International Conference on Solid Surfaces (Kyoto, Japan, 25-29 March).
2. International Conference on X-ray Processes in Matter (Helsinki, Finland, 29 July-1 August).
3. Third NEVAC Symposium on Surfaces Physics (The Solid-Vacuum Interface; Utrecht, The Netherlands, June, 1974).
4. International Conference on the Applications of the Mössbauer Effect (Bendor, France, 2-6 September).

During 1973 the Commission has given consideration to possible compilations of data along the lines of the *International Tables for X-ray Crystallography*, and to problems of the coordination of international conferences including the avoidance of overlapping of dates and the maintaining of a reasonable distribution of conferences among countries.

Conference Committee of the European Physical Society

The Union's representative, A. Linek, followed the activities of the Committee with the aim of providing information on the problems of organization of meetings of European physicists.

International Organization for Crystal Growth

No IOCG council meetings were held, nor were any scientific meetings organized during the year. A new constitution was prepared and sent to participants at the International Conferences on Crystal Growth held in 1966, 1969 and 1972. The new constitution was ratified by a majority vote of these participants.

International Council of Scientific Unions

The Union was represented at the meeting of the General Committee held in Leningrad, 19–21 September 1973, by the Immediate Past President, Professor A. Guinier. The ICSU Secretary General drew attention, among other things, to the creation of a sub-committee on scientific priorities and to the importance and need for the collection, synthesis, publication and utilization of the results of international programmes. The Executive Board was requested to prepare a public relations programme and inform the scientific and non-scientific sectors of the community about the nature and value of ICSU's work. The Unions were invited to examine their own programmes with the object of identifying activities of possible inter-disciplinary character and of establishing appropriate inter-Union liaison.

Finances

The audited accounts for the year 1973 are given at the end of this Report. For comparison, the 1972 figures are provided in italics. Negative quantities are indicated by parentheses.

The UNESCO standard rates of exchange, as issued by the ICSU secretariat, have been used in the preparation of these accounts. As a consequence of the many changes in exchange rates during the year, the following procedure has been adopted for the accounts. Assets and liabilities in currencies other than U.S. dollars at 31 December 1973 have been translated into U.S. dollars in the Balance Sheet at the rate operative on that date. For the Income and Expenditure Accounts, transactions have been translated into U.S. dollars by applying the standard rates of exchange appropriate to the individual dates of these transactions. As a consequence of the fluctuations in exchange rates, a profit has arisen on the assets of the Union, in terms of U.S. dollars, amounting to \$31 615. This profit has been divided amongst the nine Fund Accounts with credit balances, in direct proportion to the balances on these accounts at 31 December 1973.

The *Acta Crystallographica* account for 1973 shows a profit of \$25 895 as compared with a deficit of \$14 694 in 1972. This profit is primarily due to the fact that less pages were published (3758) than in 1972 (4661), when the backlog of articles and the Congress Supplement were published. To a lesser extent it is due to the increase in subscription rates and to a smaller increase in publication costs than was anticipated. The number of subscriptions received in 1973 was slightly lower than in 1972. The air freight surcharge more than covered the extra expenses and no increase in this surcharge will be made for 1974. There was also a refund on the printing costs of the 1972 Congress Supplement. As in previous years, the total cost of the Technical Editor's office has been divided between the *Acta Crystallographica* and the *Journal of Applied Crystallography* accounts in percentages based on the number of text pages published during the year; 88% and 12% respectively for 1973. The journals accounts have also been charged with administrative expenses as shown in the General Fund.

The *Journal of Applied Crystallography* account shows a profit of \$11 030 as compared with a profit of \$9307 in 1972. The number of subscribers decreased only slightly, from 1211 in 1972 to 1200 in 1973, and the difference in subscription income is a reflection of the difference in exchange rates at the end of 1972 and 1973.

The *Structure Reports* account shows a deficit of \$37 679 as compared with \$24 539 in 1972. This deficit is due to the continuation of the very high editorial activity undertaken with the intention of publishing *Structure Reports* more rapidly. Editorial expenses totalled \$41 058 and a further \$4123 was spent typing manuscripts for photo-offset printing. Several volumes should be published in 1974.

The *International Tables* account shows a deficit of \$28 312 as compared with a deficit of \$8518 in 1972. 886 volumes were sold in 1973 as compared with 1024 volumes in 1972, and a considerable amount was spent on binding, both on the reprint of Volume II made in 1972 and also on copies of Volumes I and III. The Commission meeting, to consider the responses to the Pilot Issue and to prepare proposals for a new edition, cost \$4013. The Computer Trial Project, initiated in September 1971, continued at a cost of \$17 940 as compared with \$6842 in 1972.

\$185 was received from the sale of 17 copies of *Fifty Years of X-ray Diffraction* and \$1132, after payment of royalties, from the sale of 215 copies of *Symmetry Aspects of M. C. Escher's Periodic Drawings*. The sale of 41 copies of Volume I and 61 copies of Volume II of *Early Papers on Diffraction of X-rays by Crystals* yielded \$1867, reducing the deficit on the fund account to \$9849.

The *Molecular Structures and Dimensions* account shows a profit of \$832. Volume 4 and Volume A1 (*Interatomic Distances 1960–65*) were published in 1973. The excess of income over expenditure, \$16 652, was shared between the University of Cambridge and the Union in the ratio 19:1.

The General Fund account shows a profit of \$16 299 as compared with a profit of \$3116 in 1972 when there was a major expense of \$20 584 in connexion with the Ninth General Assembly and Congress. The administrative expenses in 1973 were only marginally higher than in 1972, whilst \$5684 was spent supporting scientific meetings. The income from subscriptions increased to \$21 120, as a result of the increase in the unit contribution to \$160. The grant from UNESCO was \$5250, and interest from investments and bank accounts was \$21 867 as compared with \$20 502 in 1972.

In 1973, a profit of \$1388 was made on the redemption of £23 000 and \$3500 of investments. As on previous Balance Sheets, the investments have been valued according to their quotations at the end of the year. Their depreciation in value, together amounting to \$30 253, has not been charged against the General Fund but has again been included as an asset on the Balance Sheet, to avoid annual fluctuations in value influencing the General Fund account. At the end of 1973 the Union held investments in government bonds with a total maturity value of £294 000, plus \$90 000, plus £30 000, plus Swiss F 18 000.

The total of \$39 685 with the Banks at the end of the year was represented by £20 379 and \$914 with the Amsterdam–Rotterdam Bank, \$17 639 with the First National City Bank, £4570 with the National Westminster Bank and Swiss F 9530 with the Union Bank of Switzerland. The amounts shown in the Balance Sheet for Debtors and Creditors relate to sums, principally on the publishing accounts, due at 31 December 1973. Where appropriate, these amounts have now been settled.

The Balance Sheet shows that the assets of the Union have increased during the year from \$339 700, to \$361 917, including a profit of \$31 615 resulting from fluctuations in the standard rates of exchange but excluding stocks of unsold publications.

Acta Cryst. (1974). A 30, 865

International Union of Crystallography
Balance Sheet as at 31 December 1973

	U.S. Dollars 1973	U.S. Dollars 1972	U.S. Dollars 1973	U.S. Dollars 1972
FUND ACCOUNTS				
As at 31 December 1972				
Profit on fluctuations in standard rates of exchange				
Excess of income over expenditure for the year				
Balance at 31 December 1973				
General Fund	52,920	16,299	75,652	52,920
Acta Crystallographica	126,009	14,119	166,023	126,009
Journal of Applied Crystallography	30,175	3,830	11,030	30,175
Structure Reports	54,501	1,564	(37,679)	54,501
International Tables	32,299	371	(28,312)	32,299
General Publications	48,743	4,530	—	48,743
Fifty Years of X-Ray Diffraction	1,358	143	185	1,358
Escher Drawings	3,842	462	1,132	3,842
Early Papers	(11,069)	—	1,220	(11,069)
Molecular Structures and Dimensions	922	163	832	922
	<u>\$339,700</u>	<u>\$31,615</u>	<u>\$9,398</u>	<u>\$39,700</u>
	<u>\$361,917</u>	<u>\$339,700</u>		
CURRENT ASSETS				
Cash at Banks	22,873			43,445
Current Accounts	16,812			19,164
Deposit and Savings Accounts		39,685		62,609
Cash with Union Officials		1,779		1,201
Debtors		151,601		75,663
Subscriptions from Adhering Bodies, due for 1971 to 1973	1,540			1,400
Less Paid in Advance	235			160
Deduct Creditors		194,370		140,713
Net Current Assets		99,755		61,968
		<u>94,615</u>		<u>78,745</u>
FIXED ASSETS				
Investments at market value on 31 December 1973	235,527			250,563
Add Depreciation in value of Investments entered as an asset	30,253			8,364
	<u>265,780</u>			<u>258,927</u>
Office Equipment at cost less depreciation	1,522			2,028
Total Fixed Assets		267,302		260,955
		<u>\$361,917</u>		<u>\$339,700</u>

The attached notes form an integral part of these accounts.

Report of the Auditors to the International Union of Crystallography

We have examined the above Balance Sheet and the annexed Income and Expenditure Accounts, and have obtained all the information and explanations which we considered necessary.

In our opinion these accounts, together with the notes thereon, give a true and fair view of the state of affairs of the Union at 31 December 1973 and of the results for the year ended on that date.

Manchester, England

19 June 1974

Signed: MANN JUDD & Co.

Chartered Accountants

General Fund Account for the year ended 31 December 1973

	U.S. Dollars		U.S. Dollars	
	1973	1972	1973	1972
Subscription to ICSU (2½% of subscriptions received from Adhering Bodies in 1972)	317	362	5,250	6,250
Subscription to ICSU Abstracting Board	100	100	-	240
Subscription to ICSU Committee on the Teaching of Science	200	200	21,120	13,200
Administration Expenses:			18,882	18,016
Honoraria: General Secretary,			2,985	2,486
Treasurer and Secretarial Assistance	1,837		1,388	985
Audit and Accountancy Charges	1,537			
Legal Fees	475	1,303	144	2,742
Taxation Advisory Services	591	2,113		
Postages, Stationery, Printing and Sundries	472	787		
Travelling Expenses	814	1,056		
Bank Charges and Differences on Exchange	1,271	621	410	219
Executive Secretary's Office: Salary and Expenses	18,491	1,182		
Depreciation of Office Equipment	601	1,314		
Meeting of Executive Committee		16,827	8,240	6,000
Ninth General Assembly and International Congress, Kyoto, Japan:		576	8,240	2,000
Publication of Report	2,700	25,779		240
Executive Committee	-	-		
Travel Grants	-	9,557		
Programme Committee	-	10,648		
Expenses of Commissions	-	31		
Travel Expenses of IUCr	-	348		
Representatives on Other Bodies	724	20,584		
Expenses of Commissions	319	561		
Sponsorship of Meetings	5,684	383		
Index of Crystallographic Supplies:				
Cost of Printing	-	2,550		
Distribution and Postage	-	546		
	-	3,096		
	-	1,803		
Less Income from Advertisements		1,293		
Excess of Income over Expenditure carried to Balance Sheet	16,299	3,116	58,419	52,378
	<u>\$58,419</u>	<u>\$52,378</u>	<u>\$58,419</u>	<u>\$52,378</u>

The attached notes form an integral part of these accounts.

Acta Crystallographica Account for the year ended 31 December 1973

	U.S. Dollars	
	1973	1972
Publication Expenses:		
Printing and Binding Volume 29 (1972 Volume 28)	188,205	180,660
Distribution and Postage	12,418	14,485
Airfreight Costs	8,031	—
	<u>208,654</u>	<u>195,145</u>
Printing Index to Volume 28 (1972 Volumes 26 and 27)	3,433	3,723
Printing Acta Supplement S4 to Volume A28	(1,075)	4,345
	<u>211,012</u>	<u>203,213</u>
Editorial Expenses:		
Editorial Honoraria	6,602	6,127
Secretarial Assistance	1,466	1,729
Postages, Telephone and Office Sundries	1,788	1,342
Travelling Expenses	295	279
Technical Editing:		
Salaries and Expenses	32,711	30,173
Depreciation of Office Equipment	335	422
Administration Expenses	43,197	40,072
	<u>6,000</u>	<u>6,000</u>
Excess of Income over Expenditure carried to Balance Sheet	25,895	(14,694)
	<u>\$286,104</u>	<u>\$234,591</u>

U.S. Dollars

1972

1973

Subscriptions to Volume 29 (1972 Volume 28)	295,839	245,356
Sale of Back Numbers and Single Copies	16,725	15,797
Airfreight Charges to Subscribers	8,916	—
	<u>321,480</u>	<u>261,153</u>
Less Publisher's Commission on Sales	39,070	32,644
	<u>282,410</u>	<u>228,509</u>
Income from Advertisements Less Advertising Agent's Commission and Expenses	4,350	7,155
	<u>656</u>	<u>1,073</u>
	<u>286,104</u>	<u>234,591</u>

Journal of Applied Crystallography Account for the year ended 31 December 1973

Publication Expenses:		
Printing and Binding Volume 6 (1972 Volume 5)	27,408	21,477
Distribution and Postage	1,617	1,974
Airfreight Costs	1,661	—
	<u>30,686</u>	<u>23,451</u>
Printing Index to Volume 6 (1972 Volumes 3, 4 and 5)	554	1,393
Printing Acta Supplement S4 to Volume A28	(605)	2,433
	<u>30,635</u>	<u>27,277</u>
Editorial Expenses:		
Editorial Honoraria	1,439	1,433
Secretarial Assistance	10	109
Postages, Telephone and Office Sundries	406	261
Travelling Expenses	352	865
Technical Editing:		
Salaries and Expenses	4,461	2,984
Depreciation of Office Equipment	41	44
Administration Expenses	6,709	5,696
	<u>2,000</u>	<u>2,000</u>
Excess of Income over Expenditure carried to Balance Sheet	11,030	9,307
	<u>\$50,374</u>	<u>\$44,280</u>

U.S. Dollars

1972

1973

Subscriptions to Volume 6 (1972 Volume 5)	51,813	45,793
Sale of Back Numbers and Single Copies	2,508	3,369
Airfreight Charges to Subscribers	1,683	—
	<u>56,004</u>	<u>49,162</u>
Less Publisher's Commission on Sales	6,790	6,145
	<u>49,214</u>	<u>43,017</u>
Income from Advertisements Less Advertising Agent's Commission and Expenses	1,365	1,485
	<u>205</u>	<u>222</u>
	<u>\$50,374</u>	<u>\$44,280</u>

The attached notes form an integral part of these accounts.

Structure Reports Account for the year ended 31 December 1973

	<i>U.S. Dollars</i>		
	1973	1972	
Publication Expenses:			
Printing and Binding Volume 29 (1972 Volume 27)	26,611	24,594	
Typing of Manuscripts	4,123	1,751	39,138
Binding additional copies	-	625	-
Editorial Expenses:	30,734	26,970	1,116
Salary and Honoraria: Editors, Abstractors and Assistants	40,385	30,213	40,254
Office and Travelling Expenses	550	383	
Depreciation of Office Equipment	123	123	7,104
	<u>41,058</u>	<u>30,719</u>	<u>33,150</u>
	<u>\$71,792</u>	<u>\$57,689</u>	<u>24,539</u>
			<u>\$57,689</u>
			<u>\$17,492</u>

International Tables Account for the year ended 31 December 1973

	<i>U.S. Dollars</i>		
	1973	1972	
Publication Expenses:			
Printing and Binding Reprint of Volume II	6,061	6,080	
Binding additional copies	5,196	999	12,410
Editorial Expenses:	11,257	7,079	8,974
Travelling	913	246	
Depreciation of Office Equipment	-	207	8,518
Pilot Issue:	1,868	2,177	
Printing and Distribution	-	34	
Travelling Expenses	4,013	725	
St. Nizier Meeting	418	182	
Miscellaneous Expenses	6,299	3,118	
Computer Trial Project:	17,726	5,140	
Salary	177	1,599	
Travelling Expenses	37	103	
Miscellaneous Expenses	17,940	6,842	
	<u>\$36,409</u>	<u>\$17,492</u>	<u>\$36,409</u>
			<u>\$17,492</u>

The attached notes form an integral part of these accounts.

Fifty Years of X-ray Diffraction Account for the year ended 31 December 1973

	U.S. Dollars		U.S. Dollars	
	1973	1972	1973	1972
<i>Excess of Income over Expenditure carried to Balance Sheet</i>				
	185	181	224	220
	<u>\$185</u>	<u>\$181</u>	<u>39</u>	<u>39</u>
			185	
			<u>\$185</u>	<u>\$181</u>

Escher Drawings Account for the year ended 31 December 1973

<i>Excess of Income over Expenditure carried to Balance Sheet</i>	1,132	2,051	1,491	2,700
	<u>\$1,132</u>	<u>\$2,051</u>	<u>\$1,132</u>	<u>\$2,051</u>
			359	473
			<u>\$1,132</u>	<u>\$2,051</u>

Early Papers Account for the year ended 31 December 1973

Publication Expenses:	647			
Binding Volume I	—	—	590	550
Printing Volume II	647	13,761	1,673	4,315
Editorial Expenses:			2,263	4,865
Editorial Honoraria	—	400	—	—
Travelling Expenses	—	172	—	—
Preparation of Manuscript and Sundry Expenses	—	259	396	851
<i>Excess of Income over Expenditure carried to Balance Sheet</i>	1,220	(10,578)	1,867	4,014
	<u>\$1,867</u>	<u>\$4,014</u>	<u>\$1,867</u>	<u>\$4,014</u>

Molecular Structures and Dimensions Account for the year ended 31 December 1973

Publication Expenses:				
Printing and Binding Volume 4 (1972 Volume 3)	3,235	3,795	6,069	12,522
Printing and Binding Volume A 1 Expenses	12,978	—	9,906	—
Carriage and Miscellaneous Expenses	1,076	184	28,223	12,522
Advertising Expenses	2,111	66	44,198	—
Administration Expenses	19,400	4,045	7,551	2,191
<i>Excess of Income over Expenditure for the year:</i>	595	475	36,647	10,331
University of Cambridge	15,820	5,520		
IUCr carried to Balance Sheet	832	291		
	<u>16,652</u>	<u>5,811</u>		
	<u>\$36,647</u>	<u>\$10,331</u>	<u>\$36,647</u>	<u>\$10,331</u>

The attached notes form an integral part of these accounts.

**Notes on the Accounts
for the year ended 31 December 1973**

1. Accounting Policies

(a) Rates of Exchange

UNESCO standard rates of exchange as issued by the ICSU Secretariat have been used in the preparation of these accounts.

Assets and liabilities in currencies other than U.S. Dollars at 31 December 1973 have been translated into U.S. Dollars in the Balance Sheet at the rates operative on that date. These are as follows compared with the U.S. Dollar:

	1973	1972
Netherlands Guilders	2.75	3.24
Danish Crowns	6.05	6.88
Pounds Sterling	0.423	0.426
Swiss Francs	3.20	3.80
Canadian Dollars	1.00	1.00
French Francs	4.45	-
German Marks	2.64	-

In each of the Income and Expenditure Accounts transactions in currencies other than U.S. Dollars have been translated into U.S. Dollars by applying the standard rates of exchange appropriate to the individual dates of these transactions.

Profits and Losses arising from the fluctuations in standard rates of exchange during the year have been divided between the nine Fund Accounts with credit balances in direct proportion to those balances at 31 December 1973.

(b) Stocks of Unsold Copies of Union Publications

The value of these stocks has not been taken into account for Balance Sheet purposes. Publication, editorial and administrative expenses of the publications have been

charged in the accounts as revenue expenditure as and when incurred.

(c) Depreciation

(i) Investments have been included in the Balance Sheet at market value. To this has been added depreciation calculated as the difference between cost and market value. This brings the Investments back to cost and prevents the fluctuation in values from influencing the General Fund Account.

(ii) Office Equipment is depreciated by applying the straight-line method of depreciation over a five-year period.

Depreciation for the year has been charged to the various Fund Accounts as follows:

	\$
General Fund	601
<i>Acta Crystallographica</i>	335
<i>Journal of Applied Crystallography</i>	41
<i>Structure Reports</i>	123
	<u>\$1,100</u>

These policies are consistent with those adopted in previous years.

2. Taxation

As an association incorporated in Switzerland, the Union is exempt from Swiss Federal and Geneva Cantonal Tax. Agreement has now been reached with the United Kingdom taxation authorities that under the terms of the United Kingdom/Switzerland Double Taxation Agreement 1967, whilst present circumstances obtain, all income arising within the United Kingdom will not be subject to United Kingdom Tax.

3. Subscriptions

Subscriptions from Adhering Bodies as shown by the General Fund Account represent total subscriptions due for the year 1973.

International Union of Crystallography

Acta Crystallographica *Journal of Applied Crystallography*

The Executive Committee of the International Union of Crystallography has found it necessary to increase the yearly subscription rates for *Acta Crystallographica* and the *Journal of Applied Crystallography* as from 1 January 1975. Every effort has been made to keep these increases to a minimum.

Acta Crystallographica

The following rates will apply for Volumes A31 and B31 (1975). All subscription rates are fixed in Danish kroner, and the U.S. dollar equivalents given below are subject to exchange-rate fluctuations.

Complete volumes, regular price per volume

Sections A & B (combined subscription)	D.Kr. 1400 (\$230.00)
Section A only	D.Kr. 315 (\$ 52.00)
Section B only	D.Kr. 1200 (\$197.00)

Complete volumes, reduced price for individuals

Sections A & B (combined subscription)	D.Kr. 580 (\$95.00)
Section A only	D.Kr. 135 (\$22.00)
Section B only	D.Kr. 500 (\$82.00)

All subscribers in the U.S.A. and Canada should add to the above subscription rates the additional charges for airfreighting as mentioned below.

The reduced-rate subscriptions are ordinarily only available to members of recognized scientific societies, who must give a written undertaking accompanying their subscription application that the journal is for their personal use and will not be made available to libraries, institutions, etc.

Single parts

The prices of single parts are as follows:	
Vols. 1-23 (if available)	D.Kr. 79 (\$13.00)
Vols. A24-A31	D.Kr. 79 (\$13.00)
Vols. B24-B31	D.Kr. 150 (\$25.00)

Journal of Applied Crystallography

The following rates will apply for Volume 8 (1975). All subscription rates are fixed in Danish kroner, and the U.S.

dollar equivalents given below are subject to exchange-rate fluctuations.

Complete volumes,
regular price per volume: D.Kr. 360 (\$59.00)

Complete volumes
reduced price for individuals: D.Kr. 180 (\$29.50)

All subscribers in the U.S.A. and Canada should add to the above subscription rates the additional charge for airfreighting as mentioned below.

Single parts

The price of single parts is as follows:
Vols. 1-8 D.Kr. 90 (\$15.00)

Airfreighting of copies to the U.S.A. and Canada

The airfreighting service introduced in 1973 will be continued and is obligatory for all subscribers in the U.S.A. and Canada. During 1974 the air freight costs have increased by approximately 25% and hence it would have been necessary to increase correspondingly the charges made to subscribers. However, in order to compensate for the delays or failures in delivery suffered by some North American subscribers in 1974, Munksgaard has agreed to meet these increases in costs. Hence the compulsory charges to North American subscribers for 1975 for this service remain the same as for 1974, namely:

Acta Crystallographica

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